Dissemination of a Breast and Cervical Cancer Early Detection Program Through a Network of Community-Based Organizations

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ENCORE^{plus}*, a breast and cervical cancer outreach, education, and screening referral program, was implemented by the YWCA of the United States and funded by Avon's Breast Cancer Awareness Crusade. ENCORE*^{plus} *was designed to address the educational and access needs of low socioeconomic status and minority women who experience substantial barriers to breast and cervical cancer screening. This article describes the dissemination of ENCORE*^{plus} *to 78 YWCAs in 30 states. It illustrates the application of social cognitive theory and diffusion theory to increase program adoption, implementation, and maintenance among community organizations that have not traditionally provided public health related services. The article highlights elements of the program that enhanced its adoption and implementation and describes procedures for accelerating the diffusion of the program across the country.*

Keywords: *health promotion; intervention; program planning; diffusion of innovations; breast cancer; cervical cancer*

INTRODUCTION

The work of E. Rogers (1983) and others (Steckler, Goodman, & Kegler, 2002) has helped explain the process by which innovations, such as health promotion programs, are diffused through communities. It has also provided guidance for how to get innovations adopted, implemented, and maintained over time. Nevertheless, a gap continues to exist in translating diffusion models and research findings into evidence based public health practice (Kerner et al., 2005). The purpose of this article is to describe the dissemination of ENCOREplus, an evidence-based breast and cervical cancer screening promotion program targeting minority women 40 and older. This article illustrates a unique collaborative partnership and describes the use of theory-based methods and strategies to enhance the program's adoption, implementation, and maintenance in community settings.

The effectiveness of breast and cervical cancer screening in improving treatment outcomes and survival is well established (Elmore, Armstrong, Lehman, & Fletchet, 2005; Etzioni et al., 2003; Shapiro, Venet, Strax, Venet, & Roeser, 1982). Rates of women reporting compliance with breast cancer screening guidelines have increased overall in the past decade (American Cancer Society, 2008). However, among low-income women, older women, women of low educational levels, uninsured women, and women who have immigrated to the United States in the past 10 years, the reported utilization of mammography and cervical cancer screening continues to be significantly lower when compared to women in other groups (Anderson & May, 1995; National Center for Health Statistics, 2006; Swan, Breen, Coates, Rimer, & Lee, 2003).

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The disparities observed in screening for breast and cervical cancer have been attributed to factors such as fear of a potential diagnosis, lack of knowledge about screening recommendations, negative attitudes about testing, and low self-efficacy (Coughlin, Uhler, Richards, & Wilson, 2003; Fernández, Gonzales, Tortolero-Luna, Partida, & Bartholomew, 2005; Harmon, Castro, & Coe, 1996; Hedegaard, Davidson, & Wright, 1996; Otero-Sabogal, Stewart, Sabogal, Brown, & Perez-Stable, 2003; Palmer, Fernández, Tortolero-Luna, Gonzales, & Mullen, 2005; Ramirez et al., 2000; Roberson, 1994; Valdez et al., 2001). However, changing individual factors alone will not solve the problem of low cancer screening utilization. Factors external to the individual, such as lack of insurance, transportation issues, and no regular source of health care, also play a role in accessing screening services (Bazargan, Bazargan, Farooq, & Baker, 2004; Coronado, Thompson, Koepsell, Schwartz, & McLerran, 2004; Otero-Sabogal et al., 2003; Portnoy, Anderson, & Eriksen, 1989). Effective programs influence both personal and environmental factors to encourage and facilitate screening.

Several programs targeting both breast and cervical cancer screening developed over the past 10 years have proven to be effective in influencing individual behavior change (Legler et al., 2002; Yabroff, Mangan, & Mandelblatt, 2003). However, the potential benefits of such programs are limited by their adoption, implementation, and maintenance by the community, public health, and clinical practice settings (Kerner et al., 2005). The lack of resources available for dissemination has resulted in the use of passive information only approaches. Efforts to disseminate tested interventions have typically been unsystematic and uncoordinated (Kerner, Rimer, & Emmons, 2005) and only recently has there been some guidance about how to plan and carry out strategies to promote diffusion.

Recent studies have begun to identify the best strategies for dissemination of cancer control programs. Several of these show promise and the studies provide guidance and theoretical models that can direct dissemination efforts (Ellis et al., 2005). Studies show that for active diffusion to occur, planners must carefully consider evidence and theory as they plan for adoption, implementation, and maintenance. For example, Glanz, Steffen, Elliott, and O'Riordan (2005) produced an intervention to disseminate an effective skin cancer prevention program. It was a carefully planned, theory- and evidence-informed dissemination intervention that incorporated methods based on an integration of Social Cognitive Theory (Bandura, 1986), Diffusion of Innovation Theory (DIT; Rogers, 1995, 2003), and theories of organizational change (Steckler et al., 2002). Slater, Finnegan, and Madigan (2005) used strategies based on DIT as well. By building relationships between national and state level organizations at the onset of program development, they were able to effectively disseminate a breast cancer screening intervention for low-income, older, and uninsured women throughout the state and even gained interest from a neighboring state to implement the program.

Another study on the adoption and implementation of mandated diabetes registries by community health centers showed the usefulness of Roger's model and underscored key factors influencing dissemination including personal involvement of leadership, shared problem solving, and peer learning (Helfrich, Savitz, Swiger, & Weiner, 2007).

Dissemination research in other areas of health promotion such as physical activity (Estabrooks & Glasgow, 2006; Owen, Glanz, Sallis, & Kelder, 2006; Rabin, Brownson, Kerner, & Glasgow, 2006; Valente, 2006) and HIV prevention (Harshbarger, Rebchook, O'Donnell, & Collins, 2006) have also documented the importance of using theory for dissemination planning and have offered models for enhancing dissemination efforts. The authors of a recent journal supplement on diffusion and dissemination of physical activity interventions (Green et al., 2006; Owen et al., 2006; Rabin et al., 2006) commonly use DIT and describe the need to address various factors influencing dissemination including the perceived characteristics of the innovation, the time it takes for diffusion to occur, and the characteristics of individual adopters (such as innovativeness). Gandelman,

DeSantis, and Rietmeijer (2006) describe the assessment of community needs and agency capacity as an integral step in implementing evidence-based interventions. A recent study by Brownson et al. (2007) that explored factors contributing to the dissemination of evidence-based physical activity interventions by State Health Departments showed that funding, adequate staffing, and legislative support all influenced adoption. What these various studies show is that using a coordinated and theory-driven dissemination approach can enhance program adoption and implementation. This is an essential step for increasing the impact of efficacious programs and closing the gap between what we know works and what is actually used in communities.

PROGRAM BACKGROUND

ENCORE*plus* was designed to address a variety of personal and environmental barriers that prevent women, particularly low- income and minority women, from obtaining breast and cervical cancer screening services. The program was designed to be implemented by a network of community-based agencies that already reached the priority population of underserved women. Although not designed as a dissemination study, the development and dissemination of ENCORE*plus* demonstrate the practical application of diffusion theory and illustrate strategies to maximize the adoption, implementation, and maintenance of health-promotion innovations in community settings.

The program grew out of the original ENCORE posttreatment program for breast cancer patients of YWCA of the United States (YWCA USA) and from a pilot project (1991 to 1992) coordinated by the Office of Cancer Communications of the National Cancer Institute as part of its Mammography Education Initiative. Four YWCAs and two nonprofit national organizations participated in the pilot study, a collaborative effort among nonprofit organizations, local clinical providers, and a federal public health agency targeting uninsured African-American and Hispanic women with outreach, education, and mammography screening (Fintor, Coleman, DeBor, Gibson, & Sutton, 1993).

The program addressed personal barriers through education, small group support sessions, and outreach. Environmental and communication barriers such as transportation, child care, language, and hearing and physical disabilities were addressed by each local program based on the needs of their clients. Institutional factors were addressed with local providers through the establishment of referral networks to ensure that low- or reduced-cost screening services and appropriate follow-up care were available to women in the program. The ENCORE*plus* program applies the social ecological approach both in the delivery of the intervention itself and in its dissemination efforts. Whereras the social ecological model (Stokols, 1992; Stokols, Allen, & Bellingham, 1996) has been widely used to describe factors influencing health behaviors, (Colditz, Emmons, Vishwanath, & Kerner, 2008) there has been little work in the area of intervention approaches that address and integrate various levels of influence. During the development and dissemination of ENCORE*plus*, strategies that focus on the individual were integrated into organizational and community systems to address the environmental, economic, and organizational factors affecting individual behavior change as well as program adoption, implementation, and maintenance.

The pilot program demonstrated the viability, strengths, and weaknesses of using community-based agencies (e.g., the YWCA) to deliver this type of program to low-income and underserved women. Specifically, local YWCAs were able to: (a) provide a conduit for underserved populations who knew and trusted the YWCA staff; (b) provide leadership in coordinating efforts between local level organizations and agencies from the private, nonprofit, and public sectors; (c) provide personnel who, when properly trained, supported, and supervised, could work together with public health officials and clinicians to increase use of primary and preventive health care services; and (d) provide more accessible and nonthreatening settings for offering health education and clinical service. The local YWCAs showed considerable organizational strengths, specifically, capable field and supervisory personnel, physical facilities, satellite locations, fiscal management capacity, and contacts throughout the priority population communities.

The pilot study demonstrated a need for an organizational model in which central management could provide a standard set of program guidelines, quality standards, and options for activities and methods, while simultaneously allowing the local programs substantial flexibility and autonomy for further development and implementation. The pilot program also revealed the need for financial support not only for program infrastructure development but also for the clinical screening services for low-income and/or uninsured women served by the program.

Funds for clinical screening services became available when Congress enacted the Breast and Cervical Cancer Mortality Reduction Act of 1990, which enabled the Centers for Disease Control and Prevention (CDC) to develop the National Breast and Cervical Cancer Early Detection Program (NBCCEDP). The NBCCEDP is a collaborative effort between CDC and the states to improve

and extend breast and cervical cancer screening and follow-up services to low-income women and uninsured women (CDC, 1996). Although the CDC program could adapt and improve the public health infrastructure and address some of the financial barriers to screening through the distribution of NBCCEDP funds to state health agencies, it needed partners to provide outreach to link eligible consumers to the newly available supply of clinical screening services. One of the agency's first and seemingly unorthodox partnerships was with the YWCA USA. This collaborative agreement with a nonprofit community agency outside the traditional public health infrastructure opened new ground for public/nonprofit partnerships to improve access to medically underserved women.

The pilot study jump-started a national initiative by the YWCA USA to develop a comprehensive breast and cervical cancer outreach, education, screening, and post-diagnosis support program that would update the trademark ENCORE program to become ENCORE^{plus}. Ultimately, the YWCA Office of Women's Health Initiatives (YWCA OWHI) was established within the YWCA national headquarters to manage the new program. Beginning in 1994, Avon provided funds to the YWCA of the USA for the ENCORE^{plus} program using profits from annual sales of symbolic pink ribbon breast cancer awareness products.

The ENCORE^{plus} program ultimately comprised the following components: (a) establishment of partnerships and collaborations with community based organizations, social service and health care agencies with the expertise and resources to participate in a women's health promotion effort; (b) establishment of working relationships with state and local health departments and health care providers to create service delivery systems that are practical for women to use; (c) community outreach and public education activities (one-on-one, group, and media-based) to raise awareness and motivate women to adhere to recommended screening guidelines; and (d) provision of enabling, case management and support services (assisted scheduling, appointment reminders, transportation, child care, advocacy, and moral support) to facilitate screening and follow-up care for women who need it. The CDC cooperative agreement provided funds to design and implement a national evaluation the ENCORE^{plus} program described below.

PROGRAM CHARACTERISTICS

For an innovation such as the ENCORE^{plus} program to be diffused through a network of potential users, it has to embody certain characteristics that make it acceptable and accordant with the adopting system. The characteristics of an innovation that increase its potential for successful diffusion, as described by Rogers (1983), are compatibility, flexibility, complexity, relative advantage, observability, and risk. The ENCORE^{plus} program design addressed each of these elements to promote program acceptance and diffusion through the network of local YWCAs.

Compatibility

A compatible intervention is consistent with the economic, sociocultural, and philosophical value system of the adopter. The YWCA mission is to empower women and eliminate racism. Its social service activities include domestic violence prevention and control, housing, child care, local programs for racial justice, and health programs such as exercise and fitness activities. The YWCA built on its long-standing commitment to breast cancer work as a means of empowering women by adding an early detection component and updating the postdiagnosis portion of the original ENCORE program. By providing educational and enabling services that bring women to screening, ENCORE^{plus} was consistent with the YWCA traditional social service programs.

Flexibility

Flexibility allows for program adaptation by the adopter. The affiliates of the YWCA USA are autonomous organizations united by their common mission but serve diverse local populations. To be diffused through such a system, an innovation has to be adaptable to different organizational structures, population bases, and management styles. This requisite flexibility was built into the design of the ENCORE^{plus} intervention at several levels. For example, quantitative performance criteria and goals were established in grant awards made by the national YWCA, but the grantee agencies selected their own methods for reaching the screening goals. Sound medical information, program guidelines, and a menu of tested approaches to removing barriers to screening were provided to the potential adopters via training; but the adopters chose how they would implement these principles and provide information within the context and circumstances of their local communities.

Complexity

The ENCORE^{plus} program introduced a new set of required skills and areas of expertise: medical content regarding breast and cervical cancer screening, the evaluation protocol, and the establishment of networks and

relationships with clinical providers. This inherent level of complexity presented a potential obstacle that had to be confronted while introducing the program to potential users. The ENCORE^{plus} program materials and program requirements were presented in a format and style that conveyed the requisite information in "laywoman's terms." The program also emphasized the ways in which the new program resembled the YWCA's traditional way of operation and offered intensive training and technical assistance wherever necessary.

Relative Advantage

For an innovation to appeal to potential adopters, they must perceive that it has some advantage over their existing procedures or programs. Generally, YWCA affiliates are responsible for funding their own programs and for covering the overhead and payroll of their organization. As grassroots agencies, they are always seeking ways to serve the community and further their mission, albeit within the financial constraints of their limited budgets. The national YWCA of the USA instituted a competitive grants program (Funds for Women's Health) that presented potential adopters with an advantageous opportunity. Implementing a fully funded program could increase staff skills and enhance the YWCA mission, and promote the value of the YWCA to the community it served, without encroaching on locally raised funds. Another advantage was implementation of a program with proven effectiveness. Potential adopters initially relied on results of the pilot program to determine potential advantage. After the first year of the program, the first evaluation results were available and after the first 2 years, the success of the program was well documented (Fernández, DeBor, Candreia, Wagner, & Stewart, 1999).

Risk

Available funding greatly reduced the financial risk typically associated with a new program. Little capital was needed for program adoption beyond that already provided by the Funds for Women's Health program. Furthermore, the establishment of national partnerships with respected entities, such as CDC and Avon, brought the strength of their reputations and resources to bear on the identity and development of the ENCORE^{plus} program. This increased credibility helped the local YWCA as they sought support from health care providers and applied for outside funding. Additional funding and other resources became more readily accessible to adopters because of the leverage provided by the partnership structure of the program. The YWCA OWHI's nonfinancial resources, for example, technical assistance, specific program materials, and training, further reduced the risk of failure in the implementation of the new program.

Observability

This characteristic refers to the extent that the advantages of an innovation are evident to potential adopters. The initial adopters of the ENCORE^{plus} program were made aware of the program's value to the YWCA and to the women it serves through presentations at national and regional YWCA meetings before the issuance of the request for proposals. When the first cohort of adopters had successfully initiated the ENCORE^{plus} program in local agencies, reports of their progress, (i.e., in a newsletter, in a national teleconference, in national YWCA convention presentations, and in horizontal communication among local member agencies) illustrated the advantages of adopting the program to potential users. Additionally, once evidence of the effectiveness of the program was made available, this information was published and sent to potential adopters (Fernández et al., 1999).

PROGRAM EFFECTIVENESS

A study evaluating the effectiveness of the ENCORE^{plus} program during the first 2 years of implementation demonstrated that among nonadherent participants reached for follow-up, 87.7% received a mammogram and 62.2% received a Pap tests. Breast and cervical cancer screening completion rates compared favorably with intervention effects of other programs (Fernández et al., 1999). Over the full 4 years of data collection ($N = 97,683$), 52,841 women reported receiving a mammogram and 34,781 reported receiving a Pap test. The findings of this study indicated that the ENCORE^{plus} program was effective in reaching racial and ethnic minority women with low incomes and little or no insurance and facilitating screening for these women despite economic and access barriers.

The most common method of first contact reported by program participants was through the YWCA. Once contacted, the YWCA provided one-on-one education and coordinated screening days at community centers and churches. The referral system set up between ENCORE^{plus} staff and local cancer screening facilities was a key factor in facilitating access. ENCORE^{plus} served as a linkage between women in need of mammography and Pap tests and the clinical providers of these screenings. Program staff identified and contacted NBCCEDP providers in the area and worked with them to coordinate outreach and service delivery. Staff also functioned as patient navigators by provided assistance in accessing third-party insurers, such as Medicare, Medicaid, and Hill-Burton, a

federal program that funds medical facilities which are then required to provide free or low-cost services to individuals who qualify (Anderson, 1990; Fernández et al., 1999). The ENCORE^{plus} program also offered various support and navigation services including child care and transportation, help scheduling appointments, and coordinating directly with screening facilities.

PROGRAM DISSEMINATION

To ensure that the ENCORE^{plus} program would reach large numbers of women with the greatest need, it had to be widely adopted, appropriately implemented, and maintained at the community level. Whereras diffusion is a natural and spontaneous process through which innovations spread throughout society, dissemination is a directed active process for increasing their adoption, implementation, and maintenance (Green, Gottlieb, & Parcel, 1991; Lomas, 1993; Orlandi, Landers, Weston, & Haley, 1990; Rogers, 1983). The program dissemination activities described below were carried out to accelerate this process.

It was essential to develop an infrastructure that would enhance dissemination of the program. Orlandi et al. (1990) identifies three specific roles helpful in accelerating diffusion: the resource system, the user system, and the linkage system. The resource system for the ENCORE^{plus} program consisted of pilot study experience, CDC and Avon funding, expert knowledge, program training manuals, educational materials, and implementation protocols. The user system consisted of the YWCA affiliates throughout the country, and the linkage system consisted of the YWCA OWHI and the national corps of trainers who served as change agents linking the resource system to the adopters. These three components continuously interacted in the process of disseminating ENCORE^{plus} throughout the network of adopting YWCA affiliates. This process proceeded through program adoption, implementation, and maintenance.

Adoption

Activities to enhance program adoption focused on communicating the program characteristics to potential users and describing ENCORE^{plus} as a logical expansion of existing YWCA programs and a new means of promoting organizational goals. Initially, the ENCORE^{plus} program concept was presented by the YWCA leadership to affiliates at national and regional meetings. At presentations, YWCA leadership highlighted the advantages of the ENCORE^{plus} program for both the national YWCA movement and its individual affiliates. In March 1994, the first request for proposals was sent to all 350 YWCA nonstudent affiliates in the United States, together with a letter from the national office of the YWCA USA explaining the program initiative and underscoring the importance of the program in furthering the YWCA's mission.

Two dissemination strategies—modeling performance and reinforcement of behavior, based on social cognitive theory (Bandura, 1986)—continued after the first 1-year grant awards were made. Materials were developed to highlight local YWCAs and the staff who had adopted and implemented the program. These included a yearbook, a book with pictures and stories of ENCORE^{plus} program staff conveying messages about the success of the program, its fit with the YWCA mission, and personal feelings of satisfaction and benefit. These types of role models were also highlighted in brochures and other marketing materials. A national teleconference with more than 500 downlink sites presented prerecorded video segments of successful ENCORE^{plus} programs. This allowed participating YWCAs to share and learn from each other while simultaneously showing the advantages of the ENCORE^{plus} program to nonparticipating YWCA affiliates. Informal networking through e-mail and personal contact was another effective way to bring new adopters into the program Horizontal dissemination in which current ENCORE^{plus} program staff recruited potential adopters at YWCA state council meetings and other state, regional, and national forums also increased adoption by other affiliates.

Inducements such as funding, evaluation support, and technical assistance, also played a central role in the dissemination process. The dissemination strategies described above provided models experiencing the social benefits and emotional gratification stemming from the adoption and implementation of the program.

Figure 1 illustrates adoption of the program by YWCA affiliates. Each year the request for proposals is sent to all nonstudent YWCA affiliates. At the start of Year 3, the program had been adopted by 78 of the 350 YWCA USA affiliates, a 22% adoption rate. This adoption rate compares favorably with other efforts using both passive and active dissemination approaches. For example, the adoption proportions in studies to disseminate alcohol, sun safety, and tobacco interventions among clinics ranged between 11% to 24% (average = 17%) for generic approaches and ranged from 16% to 37% (average = 26%) for approaches using active dissemination interventions (Gordon, Andrews, Lichtenstein, Severson, & Akers, 2005; Lewis et al., 2005; Lock & Kaner, 2000).

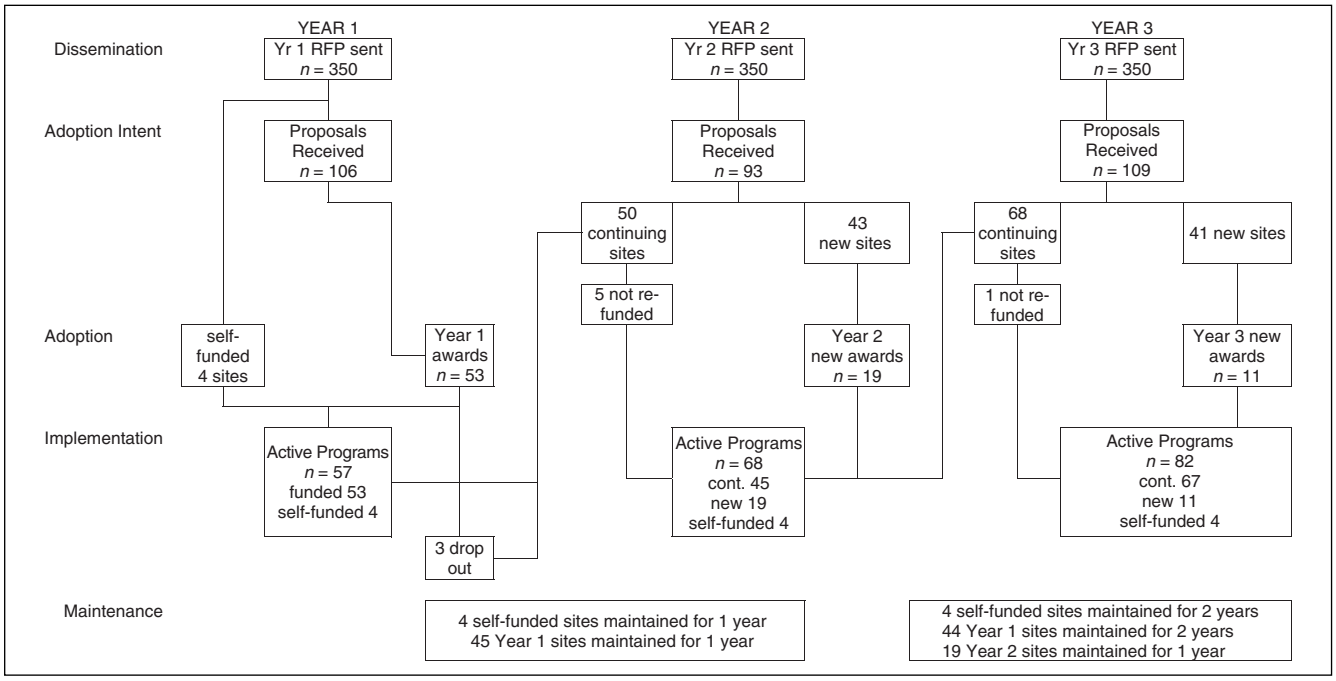

FIGURE 1 Diffusion of the ENCORE^{plus} program

Implementation

Training and technical assistance were two of the most important activities to enhance the process of program implementation in the YWCA affiliates. Training on breast and cervical cancer content, community outreach, and clinical service referral tasks were required for funded sites. The challenge was significant for program personnel with no previous health related training. An extensive training program was designed and implemented immediately after awarding the first grants. A National Trainer Corps selected from YWCA affiliate staff were chosen for their experience and commitment to the program. Adjunct medical faculty from the National Cancer Institute taught the fundamentals of breast and cervical cancer and screening technologies to the trainers. These national trainers understand the culture of the local YWCAs and the needs and concerns of the ENCORE^{plus} program staff. A train-the-trainer course delivered two or three times per year in 5-day training sessions introduced new adopters to program content, together with the procedures and quality standards of the program. With peers acting as teachers and role models, the ENCORE^{plus} staff could effectively absorb the necessary information without creating information overload (Rogers, 1983).

A written manual reinforced the training by providing detailed, comprehensive instructions for each task involved in program administration, outreach, education, provider networking, and program evaluation. The manual was supplemented with an instructional video, an evaluation kit with instructional diskette, and health education materials. In addition to these materials, YWCA OWHI staff and an expert consultant provided ongoing technical assistance to the local program staff. A private forum was established on an on-line communication network that linked all participating ENCORE^{plus} programs with YWCA OWHI and with each other. Training for this system was provided to each local program. YWCA OWHI staff conducted regular site visits to each program and gave ongoing access to technical assistance through the on-line system and a 1-800 telephone number.

The acquisition of skills and knowledge alone is often not sufficient for effective adoption and implementation; program incentives often play an important role (Green et al., 1991). The material and social incentives to adopt the ENCORE^{plus} program were extended to the implementation phase. To ensure appropriate monitoring of implementation, the national YWCA provided an incentive system which awarded quality points for prompt and accurate data submission. These points could be applied to the purchase of journal subscriptions of training materials.

Outstanding program performance was rewarded by giving program staff the opportunity to participate in continuing education activities and attend professional meetings.

The most powerful incentive, however, was the ability to observe and to demonstrate achievement of performance goals to ensure continuation funding. To receive continuation funding, programs had to demonstrate that they met both the quantitative screening goals established by YWCA OWHI and the specific objectives set forth in their grant proposals. Evidence of the success of program implementation included both quantitative and qualitative data submitted periodically by each site.

Maintenance and Institutionalization

Ninety percent of the affiliates that adopted and implemented the ENCORE*plus* program in the first and second years of operation had funding extended for a third year (Figure 1). The experience of ENCORE*plus* validated the theoretical premise that the development of evaluative capability by program adopters is an essential component for the rapid diffusion and future sustainability of any innovation (Rogers, 1983). The development of this evaluative capability has been a goal of the program from the outset, and available resources were dedicated to the development of a workable program evaluation protocol. Participating sites collected data on program activity and the numbers and characteristics of the women contacted, enrolled, and screened. Standardized data forms were sent monthly to an evaluation and data management consulting firm, and reports were prepared for each local program and YWCA OWHI. Reports generated by the evaluation team helped local program sites and the YWCA OWHI monitor performance and make adjustments in the outreach and educational strategies used. These site reports provided the evidence necessary to make a case for continued funding through the YWCA's own process combined with other private and public funds. The data as well as aggregated national data across sites also enabled programs to establish their credibility and expand their links with clinical providers and the public health community (Fernández et al., 1999). Continuous feedback on local program performance and assistance in problem solving were critical functions of YWCA OWHI, which acted as the linkage system promoting program refinement, maintenance, and institutionalization.

Another strategy of the linkage system to assist in the maintenance and institutionalization of the program was the ongoing training of new staff and the recertification every 3 years of existing staff. This training included sessions for institutionalizing the program by expanding each affiliate's funding base, forming coalitions, and building partnerships with other nonprofit agencies and private sector entities. Local YWCAs raised $3.9 million to supplement the core grants provided by the YWCA Fund for Women's Health within 18 months of program initiation.

DISCUSSION

The ENCORE*plus* program illustrates how a public health intervention that provides breast and cervical cancer screening education and facilitates the use of clinical screening services can be disseminated and implemented through a network of community institutions not traditionally involved in public health. ENCORE*plus* was designed to apply the strengths of YWCA USA to improving the health status of poor, uninsured, and minority women through development of practical and sustainable systems to deliver outreach, education, and referral services at the community level. The lessons learned through this effort suggest that creative application of formal social science theory can funnel untapped human and financial resources to resolving serious public health needs.

The development and diffusion of ENCORE*plus* demonstrates the key principles of classical diffusion theory and social cognitive theory applied to public health practice. It also provides an example of a dissemination effort that applied principles and strategies consistent with recent advances in dissemination science (Dearing, 2008). Dearing explains, for example, that the conceptualization of the "societal sector" as the social system of interest represents an important advance in dissemination science over classical diffusion theory. The societal sector is defined as a collection of organizations that have similar services, functions, goals, and organizational structures but are not necessarily within the same geographic area (Dearing, 2008). Dearing underscores the advantages of intervening across a societal sector to accelerate program diffusion. He notes that representatives of organizations in a sector typically engage in the provision of similar services, typically know the same stories, and often closely monitor each other, particularly when competing for resources. These characteristics of a societal sector make it an ideal system for dissemination and communicating to sector members about effective interventions can be extremely efficient. Dearing also highlights the importance of a decentralized, multifaceted approach to dissemination while maintaining some centralized function (Dearing, 2008). The YWCA represents such a societal sector and the activities described in this article, including the ways in which communication about the ENCORE*plus* program progressed throughout the network of YWCAs, support these recommendations.

Spread of the program effectively combined formal elements of vertical or centralized diffusion with methods of horizontal diffusion that enhanced adoption of the innovation. In the classical diffusion model, an innovation originates from an expert source that disseminates the innovation to potential adopters as a uniform package; the potential adopters then accept or reject the innovation (Rogers, 1983). In decentralized diffusion systems, innovations originate from numerous sources and evolve as they diffuse via horizontal networks. New ideas and innovations spread horizontally through peer networks with a high degree of reinvention occurring as the innovations are modified by users to fit their particular situations. For example, in the case of ENCORE^{plus}, centralized diffusion included highly structured funding and grants management process, formal training, quantitative performance standards, and program accountability through the evaluation protocol. These vertical measures alone could not promote the program on the scale required and achieved without the richness offered by the horizontal diffusion. Peer-to-peer communication among local program staff via e-mail, workshops, and presentations at YWCA-sponsored national, regional, and statewide meetings infused the uniform program package with the expertise inherent in the local affiliates. The credibility of the communication from a peer cannot be replicated in a vertical system.

Potential problems and barriers to the diffusion of ENCORE^{plus} were avoided by designing a program that was compatible with the character and purpose of the YWCA organization. This essential element was complemented by minimizing risk through financial support and technical assistance, and adding flexibility by permitting autonomy in the selection and management of activities in which adopting agencies were already expert. Complexity, associated with the acquisition of needed medical knowledge, with data collection, and with analysis, was rendered manageable through the training and technical assistance offered by the linkage system, (i.e., OWHI and the National Trainer Corps, and the use of expert consultants). The success in ENCORE^{plus} program adoption and implementation support recent studies that have underscored the importance of program relevance, perceived fit, and perceived need as crucial elements of decision making for adoption of evidence-based interventions (Peterson, Rogers, Cunningham-Sabo, & Davis, 2007).

Local YWCAs provided feedback about what elements were most useful during the adoption and implementation process via quarterly reports, informal discussions, and yearly conferences. The elements that seemed to improve program dissemination included the development of an in-person training program delivered by change agents, ongoing technical assistance, the online communication forum, and building of local YWCA capacity for evaluation. Although materials were available to the YWCAs through the mail and technical assistance was available by phone, staff insisted that in-person training was essential and that hearing from trainers who had themselves adopted and implemented the program was extremely useful.

Change agents included OWHI staff, expert consultants, and national trainers, who facilitated diffusion through effective communication of program contents and guidelines. Among these, perhaps the most important were the trainers. The fact that these individuals were staff members of YWCAs that had adopted and implemented the program gave prospective program adopters the confidence that they, too, could implement the program within their affiliate's existing operations. The online communication system provided an opportunity for YWCA staff to learn from the successes and failures of other programs and to rapidly share recommendations for improving outreach, education, and enabling services to women.

The enhancement of the evaluative capability of the adopters provided a discipline and level of accountability unusual among community-based nonprofit agencies. YWCA staff benefited from having a coordinated evaluation plan, including a standard protocol and data collection forms. Local staff reported that access to data about the evidence of their local programs (available in yearly site reports) both reinforced their efforts and was useful in garnering continued support and additional funding for the program.

Major lessons learned were: (a) the importance of change agents and (b) awareness of the mechanisms of horizontal or decentralized diffusion. A recent article that used seven case studies to develop a framework for research utilization reported that the successful use of evidence in community settings is greatly influenced and can be enhanced by linking agents, coalitions, and program champions and that increasing community capacity is central to successful adoption and implementation (Peterson et al., 2007).

The development and diffusion of the ENCORE^{plus} program illustrates how health promotion programs can be effectively diffused through community-based human service agencies. Using a creative approach to take advantage of existing programmatic, informational, and technological resources can facilitate the spread of effective programs for the medically underserved. Particular guidance for the entire process can be drawn from social learning theory and classical diffusion theory.

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